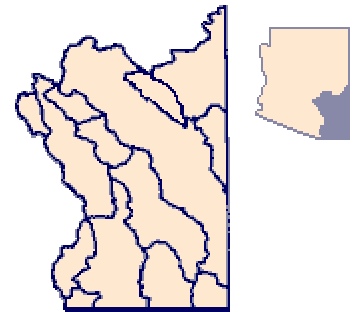


## SOUTHEASTERN ARIZONA PLANNING AREA

The southeastern Arizona planning area consists of 14 groundwater basins: Aravaipa Canyon, Bonita Creek, Cienega Creek, Donnelly Wash, Douglas, Dripping Springs Wash, Duncan Valley, Morenci, Safford, San Bernardino Valley, Upper San Pedro, Lower San Pedro, San Rafael, and Willcox basins. Duncan Valley Basin, Morenci Basin, Bonita Creek Basin, Dripping Springs Wash Basin, Safford Basin, Upper San Pedro Basin, Lower San Pedro Basin, Aravaipa Canyon Basin, Donnelly Wash Basin, Cienega Creek Basin, Willcox Basin, San Bernardino Valley Basin, Douglas Basin, San Rafael.



Most of the planning area lies within the Basin and Range physiographic province which is bounded on the north by the Central highlands physiographic province. The province is characterized by northwest-southeast trending mountain ranges separated by broad alluvial valleys. The extreme northern portion of the planning area falls within the Central highlands physiographic province; an area of transition separating the Colorado Plateau to the north and the Basin and Range province to the south. The Central highlands is characterized by a relatively narrow band of rugged mountains of igneous, metamorphic, and sedimentary rocks.

Climate in the planning area varies greatly over short distances as lowlands alternate with mountains. Average annual precipitation ranges from 8 inches on the valley floor to over 30 inches in the higher mountain elevations. Southeast Arizona receives more precipitation than the lower desert areas to the west, with over one-half of the annual total falling during July, August, and September monsoons. Average annual temperatures range from 54 °F at Portal, near the Chiricahua Mountains, to 65 °F at Winkelman.

The planning area is bordered on the north by the Salt River groundwater basin, on the west by the Phoenix, Pinal, and Tucson AMA's, and on the south and east by the International Boundary and the New Mexico state line, respectively. Elevations range from 10,713 feet above mean sea level at Mount Graham to 1,920 feet above mean sea level near Winkelman.

The major populated areas within the area include Safford, Douglas, Bisbee, and Sierra Vista. The planning area falls within Apache, Greenlee, Graham, Gila, Pinal, Pima, Santa Cruz, and Cochise Counties.

## HYDROLOGY OF INDIVIDUAL BASINS AND WATERSHEDS

**GROUNDWATER** -- The southeastern Arizona planning area consists of 14 groundwater basins. For simplicity in interpreting the numerous basins in this planning area, basin descriptions are organized into somewhat logical groupings based on geographic locations and geohydrologic characteristics. The groundwater basin descriptions generally will appear in the text from east to west as they are located geographically in the planning area and in groupings of geohydrologically connected basins. The basins are identified separately below, along with a general description of the aquifers:

- Duncan Valley Basin
- Morenci Basin
- Bonita Creek Basin
- Dripping Springs Wash Basin
- Safford Basin (includes San Simon Valley, Gila Valley, and San Carlos Valley sub-basins)
- Upper San Pedro Basin
- Lower San Pedro Basin
- Aravaipa Canyon Basin
- Donnelly Wash Basin (tributary to the San Pedro and Gila Rivers)
- Cienega Creek Basin (tributary to the Santa Cruz River and the Tucson AMA)

Willcox Basin (closed basin with internal drainage)  
San Bernardino Valley Basin  
Douglas Basin  
San Rafael (outflow to Mexico)

**SURFACE WATER** -- The discussion of surface water resources of the southeastern Arizona planning area is divided into four sections. Each of these areas are discussed separately below and include, when applicable, a discussion of flow characteristics, streamgage records, and storage facilities.

Upper Gila River Watershed  
Middle Gila River Watershed (San Pedro Drainage)  
Willcox Basin  
Mexican Drainage (includes Sulpher Springs Valley, San Bernardino Valley, and San Rafael Valley)

**REFERENCES** used in Southeastern Arizona planning area description.